

CLAIMS FOR PATENT OF THE INVENTION

The Inventors, Scott A. Heimermann and Stephen Danforth, claim:

1. A method of providing e-procurement comprising:
 - (a) using a Web site within the Internet as a forum for e-procurement transactions by reverse-auction,
 - (b) posting orders for goods and/or services digitally to said reverse-auction in said Web site as a manner of soliciting bids by any number of bidders while any such respective order remains open for bidding,
 - (c) receiving bids to supply goods and/or services specified in any respective order, or any portion thereof, while such respective order remains open for bidding,
 - (d) closing bidding for any respective order,
 - (e) identifying, by application of one or more pre-set criteria, including the criterion of lowest price offered by bid, a winning bid for, and contractually accepting, or alternatively refusing to accept any received bid for any order, or for any portion thereof, and
 - (f) notifying the winning bidder of purchaser acceptance of winning bid.
2. The method of Claim 1, above, further including a method of allowing requisitioners in end-user units of the government/entity to digitally place requisitions for goods and/or services for conversion or pooling of such requisitions into orders for purchase, whether *via* the aforesaid reverse-auction or otherwise comprising:
 - (a) using digital communication between a centralized procurement administration or similar administrative unit and various Requisitioner Nodes for placement of requisitions for goods and/or services, and

- (b) receiving any requisition thus placed, and either converting it into, or pooling it with other requisition(s) into one or more orders, alternatively for posting to said reverse-auction or for purchase otherwise.

3. The Method of claim 2, above, further including a method of verifying the authorized status of any given Requisition Node from which a requisition is placed, and of any given requisitioner making that same requisition, comprising:

- (a) automatic digital defection of the digital address of the Requisition Node from which requisitioning digital communication is initiated,
- (b) digitally verifying the authorized requisitioning status of that Requisition Node in a database of such authorized Requisition Nodes maintained by a centralized procurement administration or similar administrative unit,
- (c) requesting automatically that the user digitally enter a unique, pre-assigned or agreed-upon identifier and password, where such identifier is any digitizable data, including, without limitation, alphanumeric, graphical, or biometric data, and where such password is digitizable alphanumeric data,
- (d) determining automatically whether any identifier and any password data is entered within a pre set time limit,
- (e) determining digitally whether any entered identifier data, and any entered password data match respective identifier and password data for any authorized requisitioner in a database of authorized requisitioners maintained by said centralized procurement administration or similar administrative unit (hereinafter, "C.P.A."), and
- (f) denying requisitioning access automatically in the event that either:
 - (1) the detected digital address does not match any authorized Requisition Node digital address;
 - (2) no identifier, or no password data is entered within the pre-set time limit; or

(3) the identifier data, or the password data do not match respective identifier and password data in said C.P.A. maintained database; but permitting requisitioning access otherwise automatically.

4. The Method of Claim 3, above, further including a method of pre-authorizing certain requisitions comprising:
- (a) determining and digitally entering budgetary spending limits for the current fiscal period for each administrative unit, and setting and digitally entering a monetary limit for any requisition placed by respective administrative units, and automatically granting pre-authorized requisitioning privileges ("requisitioning authority") to each authorized requisitioner, including limits both as to types of goods and or services that may be requisitioned by each authorized requisitioner, and as to a monetary budget for requisitioning, both as to any given requisition and per fiscal period for the monetary amount of all requisitions therein by each authorized requisitioner,
 - (b) recording digitally the data of said limits per said period and per requisition for said units, and said limits as to "requisitioning authority" as to each authorized requisitioner in a database maintained by C.P.A.,
 - (c) comparing digitally, upon the instance of any requisition placed, as above, the type(s) of good(s) and/or service(s) requisitioned, and the monetary amount of said requisition to all such aforesaid limits in said database,
 - (d) denying pre-authorized status automatically to said requisition in the event that any of said limits is exceeded by said requisition or the good(s) and/or service(s) requisitioned therein, or alternatively acknowledging said pre-authorized status otherwise, and processing said requisition.

5. The method of Claim 4, above, further including a method of specific-case requisition authorization, comprising:

- (a) determining and digitally entering parameters for automated grant of specific-case requisition authorization as to requisitions denied pre-authorized status,
- (b) recording digitally the data of said parameters in a database maintained by C.P.A.,
- (c) comparing digitally, upon said denial of pre-authorized status to any requisition, said parameters and the comparative attributes of that respective requisition,
- (d) granting automatically said specific-case requisition authorization if said comparative attributes of that requisition are within said parameters, otherwise alerting C.P.A. official(s) of the need to manually review said requisition,
- (e) reviewing manually by said C.P.A. official(s) of said requisition, in any case where the automated process of elements (c) and (d) of this method do not result in automatic grant of specific-case requisition authorization, of said requisition, and manually either granting or denying said specific-case requisition authorization, and
- (f) denying said requisition, in the event that neither automatic or manual, specific-case requisition authorization is granted; otherwise processing said requisition.

6. The method of Claim 3, above, further including a method of convenient presentation, at requisitioner option, of one or more requisition templates, comprising:

- (a) examining automatically digitally upon the instance of each requisition placed, the most recent calendar-year-span of requisitions by the authorized requisitioner to identify the most commonly requisitioned goods and/or services and patterns of grouping of such goods and/or services within specific requisitions,
- (b) constructing digitally one or more templates from said identified, commonly ordered goods and/or services, and/or from said intra-requisition groupings of goods and/or services,

- (c) storing such templates digitally as files compatible to the format of requisition data files, and
- (d) presenting digitally an authorized requisitioner, upon successful logon, with the option of using any of said templates as an initial point from which to prepare the current requisition for digital submission, together with an alternative option to proceed to requisition preparation without use of any template.

7. The method of Claim 2, above, further including a method of inventory minimization through requisition fulfillment from warehoused stock-on-hand, prior to resort to purchase of goods comprising:

- (a) maintaining digitally a centralized database of all goods warehoused as stock-on-hand anywhere by said government/entity available for fulfillment of requisitions, noting as to each good whether it is available for requisitions by any unit, or only by specific unit(s),
- (b) comparing digitally, upon the instance of any requisition, each good requisitioned, including its quantity, to said centralized database, and identifying every warehoused good available to fully or partly fulfill said requisition,
- (c) determining digitally, given the location of said requisition-matching, available good(s), compared to the delivery destination(s) of said requisition, and given quantity, size and mobility of said available goods at each warehoused location, and pre-ascertained delivery route(s), whether to fulfill said requisition from said available goods, and
- (d) fulfilling automatically, in the case of an affirmative decision in element (c) of this method, either fully or partly said requisition from said requisition-matching available good(s), by adjusting all pertinent digital data accordingly, and by advising all pertinent personnel of actions and transport required to effect such fulfillment and, in the event only partial fulfillment is thereby achieved, processing the unfulfilled balance of said requisition by way of purchase.

8. The method of Claim 7, above, further including a method of requisition pooling and pool allocation comprising:

- (a) identifying automatically all unfulfilled portions of all current requisitions,
- (b) pooling digitally all goods and services requisitioned in said unfulfilled portions into an aggregate compilation organized by type of good and/or service, and by delivery destination of good(s), or by place of service performance, and by the time required, as specified in said requisition,
- (c) allocating digitally each good and/or service requisitioned, respectively, into either a “spot” purchase pool, or a “negotiations” purchase pool, using legal, and policy-based requirements, such as those calling for “request for bid” or “request for proposals”, and exceeding a value set by, and other criteria set by C.P.A. officials as criteria for allocation into the “negotiations” purchase pool, but presumptively allocating all goods and services otherwise into a “spot” purchase pool, and
- (d) designating digitally all goods and/or services allocated to the “spot” purchase pool as subject to order formulation for purchase by way of said reverse-auction, but designating all goods and/or services allocated to the “negotiations” purchase pool as ineligible for purchase by way of said reverse-auction, and hence not subject to order formulation.

9. The method of Claim 8, above, further including a method of order formulation as to goods and/or services within the “spot” purchase pool comprising:

- (a) applying analysis to favorable and unfavorable outcomes of prior purchasing, including prior purchasing experience in said reverse-action, to derive commercially sensible, advantageous purchasing tactics as to order formulation, and
- (b) formulating orders digitally for placement in said reverse-auction, by selecting certain goods, services, and/or combinations of goods and/or services in the “spot” purchase pool to comprise each given order in accord with said purchasing tactics.

10. The method of Claim 2, above, further including a method of supplier-applicant digital submission of application, supplier-applicant approval, supplier preference administration, and supplier debarment comprising:

- (a) granting digitally, at System commencement, automatic carry-over status as authorized suppliers to all manually pre-authorized, ongoing suppliers to the government/entity,
- (b) using an online application form on the Web site of Claim 1 to allow supplier-applicants to apply digitally for authorized supplier status,
- (c) barring all except authorized suppliers from access to said reverse-auction and to the facility for authorized supplier catalog upload and update of said Web site, and enforcing said bar by granting secured access solely to authorized suppliers to said portions of said Web site,
- (d) accepting and evaluating said applications digitally, based on information provided in said application, and available from other sources external to the System, determining whether to digitally grant authorized supplier status on criteria based on law, and procurement policy, and law-based preferences, as all of same are subject to digital determination, and by whether an initial calculation of said supplier-applicant's supplier performance rating score exceeds 50 points, but also proffering each such digitally-reached decision to C.P.A. officials for review and ratification or override, based on law, procurement policy, and other considerations, all as the same are not subject to digital determination,
- (e) receiving said ratification or overrides as digital input, and immediately digitally notifying said supplier-applicant,
- (f) assigning digitally said initially calculated supplier preference rating score to each newly authorized supplier, in accord with periodic re-calculation of such rating scores for existing authorized suppliers (infra, within this claim),
- (g) applying digitally a periodic review of any law-based preferences for specific authorized suppliers, to the extent the same are subject to digital determination, and of a general

performance supplier preference derived from a supplier performance rating score, as described in section K. I. B. 7. and 8. of the foregoing Specification, for all authorized suppliers,

- (h) renewing, adjusting, granting or revoking any of said supplier preferences digitally, based upon said review, but subject to manual override by C.P.A. officials for reasons of law, procurement policy and other considerations, all as the same are not subject to digital determination,
- (i) awarding digitally preference in bidding by application of said general performance supplier preference, and
- (j) debarring an authorized supplier from authorized supplier status digitally, but subject to C.P.A. official override based on considerations not subject to digital determination, where said authorized supplier falls to 50 points or less in the supplier performance rating score, or where said supplier fails to comply with other mandatory or prohibitory criteria digitally set by C.P.A. officials, such as order fulfillment failure.

11. The method Claim 2, above, further including a method of setting parameters for deciding a winning bid, and of determining a winning bid in the reverse-auction, and of notifying both the winning bid and the appropriate shipper, comprising:

- (a) setting digitally, by C.P.A. officials of parameters to be used to deductively determine a winning bid in said auction in a manner optimal for purchasing for governments and other entities with similar procurement needs, including the presumptively controlling factor of lowest price for comparable goods (*ceteris paribus*), but also including additional factors, such as: law-based preferences, supplier performance rating score, volume discounts applicable to the bid of a given bidding authorized supplier, closest conformity to order terms, inclusion of, or conduciveness of bid to optimal shipping and delivery terms, and best overall fit with other orders either concurrent with, or immediately preceding or subsequent to the order under bid,

- (b) determining deductively, digitally which bid is optimal by applying the parameters thus set, and declaring that bid as the winning bid, and
- (c) notifying digitally the winning bidder of winning bid acceptance, reciting accepted price(s) and all other terms of sale, and, when shipping arrangements have been included in a successful bid, or when a specific shipper has otherwise been selected to deliver goods in a successful bid, notifying said winning bidder and said shipper of the shipment, specifying goods to be shipped and reciting agreed-upon terms on shipment.

12. The method of Claim 2, above, further including a method of arranging and managing shipping for goods purchased comprising:

- (a) posting digitally the shipment not already allocated with, or at the time of winning bid determination in the Shipping Facility Web page as a solicitation for offers of shipment by authorized shippers with specifications of shipment terms and of desirable conditions, such as shipment of only part of the order in said winning bid, or consolidation with other simultaneously pending, in-bound shipments, and distributed delivery,
- (b) notifying digitally specific, authorized shippers with a known capability as to the shipment in question,
- (c) receiving digitally offers of shipment by authorized shippers, specifying offered terms of shipment,
- (d) determining which offer of shipment to accept, based on factors specified in Section M.5. of the foregoing Specification, and on data as to past shipments in the Order and Shipping Knowledge Base,
- (e) notifying digitally the selected shipper of acceptance of the offer of shipment,
- (f) receiving digitally notification by said selected shipper when delivery of the shipment has been made,

- (g) querying digitally, immediately thereupon, the receiving Requisitioner Node or other destination (e.g. a warehouse of the government/entity) as to receipt and conformity of said shipment, and
- (h) declaring fulfillment of the order(s) or portion(s) of order(s) included in said shipment.

13. The method of Claim 2, above, further including a method of order tracking comprising:

- (a) creating digitally an indicator within the database of orders to represent an "open" order that toggles to a reverse-state to represent a "closed" order,
- (b) setting digitally said indicator to the "open" order representation at the formulation of any given order,
- (c) switching digitally said indicator to the "closed" order representation at either: (1) fulfillment of said order; (2) declaration of failure of fulfillment of said order; or (3) withdrawal of said order before declaration of acceptance of winning bid as to said order,
- (d) monitoring digitally, during all time in which any given order is thus designated as "open", the status and event-history-to-date of said "open" order, including (but not limited to) noting respective dates and times of formulation, reverse-auction posting, bidding-closing, determination of winning bid, shipping facility posting, shipment-offer acceptance, shipment departure, shipment delivery, verification of shipment conformity and acceptance, authorization of payment, and payment, all as to said order,
- (e) reporting digitally both periodically and upon request by C.P.A. official (and as to orders including goods and services requisitioned by a given requisitioner or by a given unit, also upon request by the requisitioner or by the requisitioning unit head official, respectively) as to said status and event-history-to-date of said order,
- (f) allowing C.P.A. officials to digitally set reasonable time limits anticipated to elapse between such sequential events (as, e.g. those enumerated in Element (d) of this Claim), and

- (g) monitoring digitally for each of said reasonable time limits to expire, and, upon said expiration of any of said limits before the said anticipated, next sequential event, alerting C.P.A. officials of said expiration, thereby prompting manual inquiry regarding the unexpected delay in processing of any given order.

14. The method of Claim 2 above, further including a method of procurement accounting comprising:

- (a) establishing digitally an accounting series of spreadsheets reflecting:
- (1) procurement budgets of the government/entity, its various departments or other high-level divisions, their respective administrative units, and the authorized requisitioners within each;
 - (2) inventory of supply goods-on-hand in various warehouses of the government/entity, and of any of its divisions and units, and of any additions to, or withdrawals from said inventory ("inventory transactions"), reflecting transfer to requisitioner and requisitioning unit; and
 - (3) all purchase transactions, including payment therefor,
- (b) entering, digitally and automatically, each event of accounting significance as to said inventory and purchase transactions, including both reverse-auction transactions and "negotiations" transactions into said spreadsheets,
- (c) calculating digitally the impact of each said transaction upon all of said procurement budgets,
- (d) reconciling digitally all invoices for purchases and for shipping,
- (e) establishing digitally rules for payment release, and verifying digitally qualification for payment, and
- (f) directing digitally payment release upon deduction of qualification for immediate payment release.

15. The method of Claim 2, above, further including a method of procurement data analyses, requisition pattern recognition, and of reporting to C.P.A. officials and to requisition unit head officials comprising:

- (a) extracting digitally procurement data stored digitally,
- (b) analyzing digitally said data both on a government/entity-wide basis, and specifically as to each department, administrative unit and each authorized requisitioner:
 - (1) to recognize requisitioning patterns, and requisitioning, ordering, and/or data processing behaviors deemed aberrant;
 - (2) to determine the budgeting impact of procurement; and
 - (3) to comprehend the state of all aspects of procurement by the government/entity, and
- (c) reporting digitally to C.P.A. officials, and to head officials of department/divisions of the government/entity, and of requisitioning administrative units on any and all analyses pertinent to any of the foregoing analytical aims, insofar as a given analysis concerns the specific official.

16. The method of Claim 2, above, further including a method of improving procurement practices, predicting procurement needs and giving reminders and prompts regarding procurement comprising:

- (a) cumulating digitally data including at least data as to inventory, requisitioning trends, requisition pooling, order formulation, reverse-auction posting and bidding, transaction and shipment terms and performance,
- (b) analyzing said data digitally to derive sound procurement strategy and advantageous purchasing tactics, including, e.g. to improve structuring of future orders from future requisitions, and to optimize order posting, for purposes of reducing purchasing cost and of otherwise improving the purchase process,

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- (c) predicting digitally probable future procurement patterns and needs over at least the ensuing calendar year from analyses of said requisitioning trends, and also more immediately,
 - (d) applying digitally said predictions and said analyses to modify requisition pooling, identify needed acquisitions of warehouse inventory, or alternatively to reduce said inventory where current levels exceed minimal prudent levels and to otherwise generally maximize the efficiency of "J.I.T." procurement in practice,
 - (e) reporting digitally the conclusions and recommendations derived from said predictions and analyses to C.P.A. officials and to pertinent government/entity head officials involved in requisitioning at any impacted level, and
 - (f) giving reminders and prompts digitally to pertinent requisitioners and requisition unit head officials to check stock levels for adequacy and conversely, for overstock, and to consider what level of procurement may be required in the near future as to respective goods and/or services used; and pointers to more efficient use of requisitioning.

17. The method of Claim 2, above, further including a method of managing a centralized, unified catalog augmenting aggregated supplier-catalog data with purchasing-history data comprising:

- (a) requesting authorized suppliers to digitally upload or to otherwise provide catalogs of goods and/or services regularly offered for purchase,
- (b) receiving digitally all digitally uploaded supplier catalogs, while receiving manually all catalogs provided non-digitally, and thereupon digitizing at least all textural data as to goods and/or services in said non-digital catalogs,
- (c) uniting digitally all said supplier catalog data in a single, unified, digital catalog, and digitally augmenting said data by organizing it, topically, with addition of a topical table of contents and index, and word/abbreviation search features and applying a universal product

classification scheme and adding data culled from a database of prior orders stating the lowest price actually paid for, and quantity purchased by the government/entity overall, both within the last calendar year before the date of current consultation of said unified catalog, and

(d) displaying digitally, upon request, said unified catalog to any authorized requisitioner.

18. The method of Claim 5, above, further including additional methods, as follows:

(a) a method of convenient presentation, at requisitioner option, of one or more requisition templates, comprising:

- (1) examining automatically digitally upon the instance of each requisition placed, the most recent calendar-year-span of requisitions by the authorized requisitioner to identify the most commonly requisitioned goods and/or services and patterns of grouping of such goods and/or services within specific requisitions,
- (2) constructing digitally one or more templates from said identified, commonly ordered goods and/or services, and/or from said intra-requisition groupings of goods and/or services,
- (3) storing such templates digitally as files compatible to the format of requisition data files, and
- (4) presenting digitally an authorized requisitioner, upon successful logon, with the option of using any of said templates as an initial point from which to prepare the current requisition for digital submission, together with an alternative option to proceed to requisition preparation without use of any template.

(b) a method of inventory minimization through requisition fulfillment from warehoused stock-on-hand, prior to resort to purchase of goods comprising:

- (1) maintaining digitally a centralized database of all goods warehoused as stock-on-hand anywhere by said government/entity available for fulfillment of requisitions,

criteria for allocation into the “negotiations” purchase pool, but presumptively allocating all goods and services otherwise into a “spot” purchase pool, and

- (4) designating digitally all goods and/or services allocated to the “spot” purchase pool as subject to order formulation for purchase by way of said reverse-auction, but designating all goods and/or services allocated to the “negotiations” purchase pool as ineligible for purchase by way of said reverse-auction, and hence not subject to order formulation.

- (d) a method of order formulation as to goods and/or services within the “spot” purchase pool comprising:

- (1) applying analysis to favorable and unfavorable outcomes of prior purchasing, including prior purchasing experience in said reverse-action, to derive commercially sensible, advantageous purchasing tactics as to order formulation, and
- (2) formulating orders digitally for placement in said reverse-auction, by selecting certain goods, services, and/or combinations of goods and/or services in the “spot” purchase pool to comprise each given order in accord with said purchasing tactics.

- (e) a method of supplier-applicant digital submission of application, supplier-applicant approval, supplier preference administration, and supplier debarment comprising:

- (1) granting digitally, at System commencement, automatic carry-over status as authorized suppliers to all manually pre-authorized, ongoing suppliers to the government/entity,
- (2) using an online application form on the Web site of Claim 1 to allow supplier-applicants to apply digitally for authorized supplier status,
- (3) barring all except authorized suppliers from access to said reverse-auction and to the facility for authorized supplier catalog upload and update of said Web site, and enforcing said bar by granting secured access solely to authorized suppliers to said portions of said Web site,

- (4) accepting and evaluating said applications digitally, based on information provided in said application, and available from other sources external to the System, determining whether to digitally grant authorized supplier status on criteria based on law, and procurement policy, and law-based preferences, as all of same are subject to digital determination, and by whether an initial calculation of said supplier-applicant's supplier performance rating score exceeds 50 points, but also proffering each such digitally-reached decision to C.P.A. officials for review and ratification or override, based on law, procurement policy, and other considerations, all as the same are not subject to digital determination,
- (5) receiving said ratification or overrides as digital input, and immediately digitally notifying said supplier-applicant,
- (6) assigning digitally said initially calculated supplier preference rating score to each newly authorized supplier, in accord with periodic re-calculation of such rating scores for existing authorized suppliers (*infra*, within this claim),
- (7) applying digitally a periodic review of any law-based preferences for specific authorized suppliers, to the extent the same are subject to digital determination, and of a general performance supplier preference derived from a supplier performance rating score, as described in section K. I. B. 7. and 8. of the foregoing Specification, for all authorized suppliers,
- (8) renewing, adjusting, granting or revoking any of said supplier preferences digitally, based upon said review, but subject to manual override by C.P.A. officials for reasons of law, procurement policy and other considerations, all as the same are not subject to digital determination,
- (9) awarding digitally preference in bidding by application of said general performance supplier preference, and

(10) debarring an authorized supplier from authorized supplier status digitally, but subject to C.P.A. official override based on considerations not subject to digital determination, where said authorized supplier falls to 50 points or less in the supplier performance rating score, or where said supplier fails to comply with other mandatory or prohibitory criteria digitally set by C.P.A. officials, such as order fulfillment failure.

(f) a method of setting parameters for deciding a winning bid, and of determining a winning bid in the reverse-auction, and of notifying both the winning bid and the appropriate shipper, comprising:

- (1) setting digitally, by C.P.A. officials of parameters to be used to deductively determine a winning bid in said auction in a manner optimal for purchasing for governments and other entities with similar procurement needs, including the presumptively controlling factor of lowest price for comparable goods (*ceteris paribus*), but also including additional factors, such as: law-based preferences, supplier performance rating score, volume discounts applicable to the bid of a given bidding authorized supplier, closest conformity to order terms, inclusion of, or conduciveness of bid to optimal shipping and delivery terms, and best overall fit with other orders either concurrent with, or immediately preceding or subsequent to the order under bid,
- (2) determining deductively, digitally which bid is optimal by applying the parameters thus set, and declaring that bid as the winning bid, and
- (3) notifying digitally the winning bidder of winning bid acceptance, reciting accepted price(s) and all other terms of sale, and, when shipping arrangements have been included in a successful bid, or when a specific shipper has otherwise been selected to deliver goods in a successful bid, notifying said winning bidder and said shipper of

the shipment, specifying goods to be shipped and reciting agreed-upon terms on shipment,

(g) a method of arranging and managing shipping for goods purchased comprising:

- (1) posting digitally the shipment not already allocated with, or at the time of winning bid determination in the Shipping Facility Web page as a solicitation for offers of shipment by authorized shippers with specifications of shipment terms and of desirable conditions, such as shipment of only part of the order in said winning bid, or consolidation with other simultaneously pending, in-bound shipments, and distributed delivery,
- (2) notifying digitally specific, authorized shippers with a known capability as to the shipment in question,
- (3) receiving digitally offers of shipment by authorized shippers, specifying offered terms of shipment,
- (4) determining which offer of shipment to accept, based on factors specified in Section M.5. of the foregoing Specification, and on data as to past shipments in the Order and Shipping Knowledge Base,
- (5) notifying digitally the selected shipper of acceptance of the offer of shipment,
- (6) receiving digitally notification by said selected shipper when delivery of the shipment has been made,
- (7) querying digitally, immediately thereupon, the receiving Requisitioner Node or other destination (e.g. a warehouse of the government/entity) as to receipt and conformity of said shipment, and
- (8) declaring fulfillment of the order(s) or portion(s) of order(s) included in said shipment,

(h) a method of order tracking comprising:

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- (1) creating digitally an indicator within the database of orders to represent an “open” order that toggles to a reverse-state to represent a “closed” order,
 - (2) setting digitally said indicator to the “open” order representation at the formulation of any given order,
 - (3) switching digitally said indicator to the “closed” order representation at either: (1) fulfillment of said order; (2) declaration of failure of fulfillment of said order; or (3) withdrawal of said order before declaration of acceptance of winning bid as to said order,
 - (4) monitoring digitally, during all time in which any given order is thus designated as “open”, the status and event-history-to-date of said “open” order, including (but not limited to) noting respective dates and times of formulation, reverse-auction posting, bidding-closing, determination of winning bid, shipping facility posting, shipment-offer acceptance, shipment departure, shipment delivery, verification of shipment conformity and acceptance, authorization of payment, and payment, all as to said order,
 - (5) reporting digitally both periodically and upon request by C.P.A. official (and as to orders including goods and services requisitioned by a given requisitioner or by a given unit, also upon request by the requisitioner or by the requisitioning unit head official, respectively) as to said status and event-history-to-date of said order,
 - (6) allowing C.P.A. officials to digitally set reasonable time limits anticipated to elapse between such sequential events (as, e.g. those enumerated in Element (d) of this Claim), and
 - (7) monitoring digitally for each of said reasonable time limits to expire, and, upon said expiration of any of said limits before the said anticipated, next sequential event, alerting C.P.A. officials of said expiration, thereby prompting manual inquiry regarding the unexpected delay in processing of any given order,

- (i) a method of procurement accounting comprising:
 - (1) establishing digitally an accounting series of spreadsheets reflecting:
 - (a) procurement budgets of the government/entity, its various departments or other high-level divisions, their respective administrative units, and the authorized requisitioners within each;
 - (b) inventory of supply goods-on-hand in various warehouses of the government/entity, and of any of its divisions and units, and of any additions to, or withdrawals from said inventory ("inventory transactions"), reflecting transfer to requisitioner and requisitioning unit; and
 - (c) all purchase transactions, including payment therefor,
 - (2) entering, digitally and automatically, each event of accounting significance as to said inventory and purchase transactions, including both reverse-auction transactions and "negotiations" transactions into said spreadsheets,
 - (3) calculating digitally the impact of each said transaction upon all of said procurement budgets,
 - (4) reconciling digitally all invoices for purchases and for shipping,
 - (5) establishing digitally rules for payment release, and verifying digitally qualification for payment, and
 - (6) directing digitally payment release upon deduction of qualification for immediate payment release,
- (j) a method of procurement data analyses, requisition pattern recognition, and of reporting to C.P.A. officials and to requisition unit head officials comprising:
 - (1) extracting digitally procurement data stored digitally,
 - (2) analyzing digitally said data both on a government/entity-wide basis, and specifically as to each department, administrative unit and each authorized requisitioner:

- (a) to recognize requisitioning patterns, and requisitioning, ordering, and/or data processing behaviors deemed aberrant;
- (b) to determine the budgeting impact of procurement; and
- (c) to comprehend the state of all aspects of procurement by the government/entity, and
- (3) reporting digitally to C.P.A. officials, and to head officials of department/divisions of the government/entity, and of requisitioning administrative units on any and all analyses pertinent to any of the foregoing analytical aims, insofar as a given analysis concerns the specific official,
- (k) a method of improving procurement practices, predicting procurement needs and giving reminders and prompts regarding procurement comprising:
 - (1) cumulating digitally data including at least data as to inventory, requisitioning trends, requisition pooling, order formulation, reverse-auction posting and bidding, transaction and shipment terms and performance,
 - (2) analyzing said data digitally to derive sound procurement strategy and advantageous purchasing tactics, including, e.g. to improve structuring of future orders from future requisitions, and to optimize order posting, for purposes of reducing purchasing cost and of otherwise improving the purchase process,
 - (3) predicting digitally probable future procurement patterns and needs over at least the ensuing calendar year from analyses of said requisitioning trends, and also more immediately,
 - (4) applying digitally said predictions and said analyses to modify requisition pooling, identify needed acquisitions of warehouse inventory, or alternatively to reduce said inventory where current levels exceed minimal prudent levels and to otherwise generally maximize the efficiency of "J.I.T." procurement in practice,

- (5) reporting digitally the conclusions and recommendations derived from said predictions and analyses to C.P.A. officials and to pertinent government/entity head officials involved in requisitioning at any impacted level, and
- (7) giving reminders and prompts digitally to pertinent requisitioners and requisition unit head officials to check stock levels for adequacy and conversely, for overstock, and to consider what level of procurement may be required in the near future as to respective goods and/or services used; and pointers to more efficient use of requisitioning, and
- (l) a method of managing a centralized, unified catalog augmenting aggregated supplier-catalog data with purchasing-history data comprising:
 - (1) requesting authorized suppliers to digitally upload or to otherwise provide catalogs of goods and/or services regularly offered for purchase,
 - (2) receiving digitally all digitally uploaded supplier catalogs, while receiving manually all catalogs provided non-digitally, and thereupon digitizing at least all textural data as to goods and/or services in said non-digital catalogs,
 - (3) uniting digitally all said supplier catalog data in a single, unified, digital catalog, and digitally augmenting said data by organizing it, topically, with addition of a topical table of contents and index, and word/abbreviation search features and applying a universal product classification scheme and adding data culled from a database of prior orders stating the lowest price actually paid for, and quantity purchased by the government/entity overall, both within the last calendar year before the date of current consultation of said unified catalog, and
 - (4) displaying digitally, upon request, said unified catalog to any authorized requisitioner.

In addition to all of the foregoing claims for patent, pursuant to Manual of Patent Examining Procedure, Section 707.07(j), in view of the *pro se* status of the Joint Inventors herein, as to any of said foregoing claims that may be deemed either not narrowly drafted enough for patent qualification, or unnecessarily, overly narrowly drafted as to the patentable subject matter, or simply not succinct, or otherwise not adequately written, Joint Inventors request the examiner to draft one or more suitable claim(s) for patentable subject matter, either as indicated in the foregoing claim(s), or as perceived by the examiner.